

**FUTURE SEARCH CONFERENCE FOR
INCREASING WATER EFFICIENCY
BY LARGE CONSUMERS IN JORDAN**

**Water Efficiency and Public Information for Action
(WEPIA)**

Cooperative Agreement No. 278-A-00-00-00201-00

**Submitted to:
USAID/Jordan**

**Submitted by:
The Academy for Educational Development
In Cooperation with EnviroConsult**

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INTRODUCTION

Jordan's severe water shortage crisis is attributed to two main problems: limited supply and increased demand. As there are essentially no undeveloped sources of fresh water remaining, meeting the increasing demands for limited water resources necessitates either resorting to costly solutions such as desalinization, or an effective management of this demand.

Water Efficiency & Public Information for Action (WEPIA) is a strategic marketing program of the Academy of Educational Development, funded by USAID in cooperation with the Ministry of Water and Irrigation. The three-year program addresses water demand management through two main areas; the first looks at immediate actions through implementation of water-saving devices, while the second focuses on the next generation and its attitude towards water consumption. WEPIA recognizes that Jordanians have been in the forefront of water conservation for many years, yet one remaining gap is the implementation and use of water efficiency devices that make both the supply and consumption of water by the end user, more efficient. It is this gap that WEPIA hopes to fill.

To that end, WEPIA organized a "Future Search Conference for Increasing Water Efficiency by Large Consumers in Jordan". Eighty representatives of nine stakeholder groups participated actively during the two-day conference. The stakeholders were grouped under 'the technicals', advocacy/education, policy, NGOs, suppliers, funders, hospitals, universities, and hotels. The main objective of the conference was to identify a work plan, by the stakeholders, so as to enable implementation of water saving devices (WSDs) in the sectors of large water consumers as a measure for optimizing water use. WEPIA's goal is to have WSDs installed, by the year 2003, in 85% of large public consumer utilities, hotels, private hospitals, and private schools.

A Future Search Conference is a new planning process that makes possible the development of consensus among groups or organizations with diverse interests regarding a shared problem or issue. It allows for the development of a shared vision and specific action plans. There are four basic underlying principles to this process, namely:

- The participation of the "Whole System" in the room;
- Global exploration of the topic at hand before local action;
- Future focus and common ground between stakeholders; and
- Self-management and responsibility for decisions and actions.

CONFERENCE METHODOLOGY

A Future Search Conference revolves around four main tasks: review of the past, an analysis of the present, development of future scenarios and common ground, and lastly action planning.



By going through these exercises, the participants are able to reach an understanding of the history of the whole system and how it is shaping the present and the future. They are then able to envision the future, which is shared by all segments of a system, and arrive at individual and stakeholder commitments towards actions required.

REVIEW OF THE PAST

The conference introduced a series of structured exercises that led participants to reflect and think together on the past history of water conservation in Jordan, determine the important milestones and move to create a common vision, structure it and plan the implementation of several key and practical ideas. Participants were guided into the "roller coaster of emotions" and experienced together the global, Jordanian, and personal events that have affected their lives since 1975 until the present. They then drew the connections from this exercise and shared them with each other. The exercise served to establish the shared purpose for the meeting.

FOCUS ON THE PRESENT

The group's next task was to focus on the present and try to look at all the trends affecting water efficiency and the promotion of water efficiency use in Jordan. Participants brainstormed a huge list of trends in the context of a lively and participatory exercise called the "mind map" and endeavored to prioritize them and discuss the most significant trends that they deemed important. On these trends participants worked in groups to determine and subsequently share with each other what are the proudest things they have been doing regarding water efficiency and what were the things they wanted to see changed or done in the future (see Annex 3 for details of outcomes). With this exercise, participants ended their discussion of the present.

DEVELOPMENT OF FUTURE SCENARIOS

Participants' next task was to form new groups and discuss future scenarios in 2005 for increasing water efficiency and using WSDs. Participants were introduced to the process whereby they had to visualize a future that they would be willing to work towards and make it happen (see Annex 4 for details of outcomes). During each group's presentation, participants took notes of ideas and scenarios for the future. The objective of the listening and note-taking exercise was to follow in the next exercise of searching for common ground between all stakeholders:

COMMON GROUND & PROMISING IDEAS

The participants were then divided into groups again and asked to generate a list of ideas on which they all agree and can find a common ground. They were also asked to generate a list of promising ideas that seem important but would require a larger consensus for implementation (please refer to Annex 5 for the full lists).

Participants evaluated together all the 'Common Ground' and 'Promising Ideas' and grouped them under subheadings as a prelude for action planning.

ACTION PLANNING

In the Action Planning exercise, participants were asked to choose, as a group, ideas that they would like to work on. To accomplish this task they were given forms with some guided questions to be followed. Participants selected nine ideas and formed groups to work on them. The final ideas selected were:

- National Water Awareness Program;
- Review of Current Water Tariffs;
- New Legislation for Water Conservation;
- Improvement of Environmental Concepts in education Curricula;
- Legislation to form a New Water Council;
- Setting Jordanian Specifications for Water Saving Devices (WSDs);
- Privatization of Water Sector in Jordan;
- Re-use of Gray Water; and
- Xeroscaping/Landscaping.

Participants worked on identifying the main objective of each project or idea, its impacts upon implementation, required resources, expertise and support from the different stakeholders, the necessary initial steps to actualize the project, as well as identifying any major obstacles foreseen. A full listing of the projects' analysis can be found in Annex 6.

Hopes and commitments:

Following the Action Planning exercise, participants formed a big group and announced their hopes and commitment for the future of water saving devices in Jordan. Some hopes and commitments that came out included:

- To have an integrated curriculum
- To have Comprehensive Education Program
- Greater focus on this issue by the media
- Commitment and taking initiative by individuals, family and schools
- To buy WSDs
- For Jordan to become a model in using WSDs
- Encouraging local community to save water

- Commitment from concerned parties to implement recommendations
- Cooperation between private and public sectors
- For the participants to meet again after 4 months
- To continue what has started during this workshop

A full list of the hopes and commitments is found in Annex 7.

Evaluation

The conference then ended with the participants' evaluation (see Annex 8). Four questions were laid out for the participants' consideration, namely:

1. What was most useful about the conference
2. Comments on the Future Search methodology
3. Things that can be done differently in the future
4. Other comments

The four main benefits that arose from the conference, as described by the participants, were:

- The Future Search methodology and exercises
- The high synergy within a multi-sectorial group
- Acquiring a wide exposure to water conservation issues
- Increased awareness on improving water efficiency (and use of WSDs)

By far, the majority of participants felt that the approach adopted by the conference and what that entailed as to an increased interaction among a varied group, was what was most useful about the conference.

In that respect, it was again the majority's opinion that the Future Search methodology was excellent, in the sense that it was highly productive, educational, induced active participation and due to its original and creative approach kept people alert. A few regarded the approach as being 'good' or 'acceptable', some found that it lacked specificity on the mandates and objectives of the activity. One person only voiced rejection of the methodology adopted.

Although the majority of participants commented that the conference was carried out 'perfectly' and there was no need for changes, several interesting comments came up as to possible changes to be taken into consideration in the future. The main comments were as follows:

- Use of 2 languages was exhausting
- Greater focus needed on water saving devices
- Venue to be out of Amman to secure full-time participation
- Representation of decision-makers and other 'absent' stakeholders within participants

- Prior distribution of reading material for participants
- Demonstrations and presentation of 'success stories'/carry out field visits
- Include lectures on water conservation, use of audio-visual aides.

Most participants ended their comments on a congratulatory note to the organizers and facilitators for a job excellently done. Certain participants stated their wish to see the outcomes of the conference fulfilled: several suggested to hold another similar conference in the future to evaluate progress, and a number asked for the circulation of reports and conclusions among the attendees.

RECOMMENDATIONS & FINDINGS

The Future Search Conference introduced to Jordan a new participatory form of decision-making allowing key stakeholders and major players to take part of a visioning and practical planning process under a single context. The Future Search Conference served to reinforce several key concepts and create new ties. It led to the following:

- Increased awareness of the use and importance of water saving devices in Jordan, and put in motion a dialogue on the topic across all sectors;
- Increased stakeholders' commitment to act against water shortages in Jordan;
- Increased sense of participants' responsibility to "own the problem" and act upon it;
- Built relationships across sectors;
- Increased participants' hope and optimism about solving the problem of water shortages; and
- Exposure to a new participatory methodology to discuss strategically important issues.

Analysis of Outcomes

The participants were able to identify nine projects that they deemed of high priority for increasing water efficiency in Jordan. A number of these projects does not lie within WEPIA's mandates and objectives and could therefore be recommended for the consideration of the Ministry of Water and Irrigation.

SUGGESTIONS FOR MWI

- Legislation to form a new "Water Council" to address the water shortage problems.

Action Steps:

- 1- Include all sectors
- 2- Establish a national long-term strategy
- 3- Re-evaluate water policies
- 4- Ease spreading of ideas to all sectors

5- Implement a national awareness campaign.

▪ Review of Current Water Tariffs

Action Steps:

- 1- Installation of efficient management information
- 2- Installation of proper metering system
- 3- Installation of proper billing system
- 4- Identify Minimum Consumption per individual and set it as target
- 5- Provide incentive for consuming below targeted amount
- 6- Establish Penalties for consumption above target

▪ Privatization of Water Sector in Jordan

Action Steps:

- 1- Collection of information and conducting studies
- 2- Gain authorization from concerned authorities to start process
- 3- Reformation of Water establishment to suit the privatization system
- 4- Training of employees on principles of privatization
- 5- Implement privatization under well-planned strategies by choosing a pioneer area
- 6- Hold workshops to promote privatization
- 7- Conduct interviews with representatives from legislative sector to promote privatization

SPECIFIC RECOMMENDATIONS FOR WEPIA:

Action Plans for Installation of Water Saving Devices

A. Setting New Legislation for Water Conservation (that specifies use of water saving devices)

Action Steps:

- 1- Form a technical committee from main sectors
- 2- Prepare a project feasibility study
- 3- Secure funds, required technical and public support
- 4- Instate an inspection system to overcome obstacle of law implementation

B. (i) Review and renew the Jordanian Standard specifications related to fittings for Sanitary Fixtures

(ii) Setting special Jordanian standard specifications for WSDs

Action Steps:

- 1- Define Global Standard specifications (DIN, BS, ASTM, EN)

- 2- Allocate specialized engineers representing all sectors (ministries, universities, NGOs, Engineers Association, and Contractors Association)
- 3- Formation of a technical committee by Institute for Standards & Metrology to study and introduce new standards
- 4- Enact the new standards within three months of public announcement
- 5- Address potential obstacles of suppliers and manufacturers' rejection to generating specifications with lengthy procedures

Action Plans for Education & Awareness

A. Improvement of Environmental Concepts in Educational Curricula

Action Steps:

- 1- Form a technical committee
- 2- Hold workshops to prepare the feasibility study
- 3- Secure technical and financial support
- 4- Establish internet connections and websites
- 5- Establish an educational directory
- 6- Address potential obstacles of policy makers' resistance to changes in curricula

B. National Water Awareness Program

Action Steps:

- 1- To organize training workshops and demonstrations to introduce WSDs to large consumers in Jordan. This could be achieved through WEPIA, Ministry of Water and Irrigation, Ministry of Education, and appropriate NGOs
- 2- To organize a technical committee to be in charge of developing a work plan and in overseeing the above educational activities
- 3- To coordinate with the media and through its channels to promote and introduce WSDs

There was consensus among the participants that WSDs and their uses and benefits were fully understood among large consumers. Organizing visits to users of WSDs in order to benchmark their experiences would therefore yield a profound effect.

Furthermore, there was consensus that the focus should be on the future generations at schools so as to enhance positive behavior towards environmental issues. As such, projects to incorporate water saving concepts and techniques in school curricula were raised and supported by one of the groups. In this respect, WEPIA could form a task force from this group in order to accomplish the following:

- Develop a plan and follow up on this project

- Recommend new and creative ideas such as websites to educate school children

Action Plans for Water-Saving Techniques

A. Re-use of Gray Water

Action Steps:

- 1- Involvement of all necessary stakeholders: government, building developers, consultants, NGOs and suppliers
- 2- Secure funding
- 3- Formulate a draft legislation
- 4- Establish a 'Codes, Standards, and Enforcement Agency'
- 5- Address potential obstacles of lack of awareness or public acceptance through an educational program
- 6- Build technical capacity through training workshops

B. Xeroscaping/landscaping

Action Steps:

- 1- Secure land and support from Municipality and Ministry of Agriculture
- 2- Utilize recycled water
- 3- Establish a dialogue with Ministry of Agriculture
- 4- Address potential obstacles of lack of experience and high cost

CONCLUSION AND FUTURE STEPS:

The Future Search Conference introduced a new and innovative decision-making methodology on such critical issues as water conservation in Jordan. The meeting allowed main stakeholders to discuss and decide on important issues that would promise positive radical changes for the future of ensuring better water policies in Jordan. Moreover, the outcome of the conference has created the necessary background to launch a momentum that would entail the formulation and implementation of a national policy encompassing all involved sectors in the country.

The next challenge is to keep this momentum going by following up with participants, forming the necessary committees and introducing a schedule for regular meetings and implementation planning. Such programs would be best integrated by the introduction of the collaborative planning methodology, which consists of grouping the necessary stakeholders in regular facilitated meetings to decide and act upon the above recommendations. It is important at this stage to consistently follow through on what has transpired from the conference.

It is recommended that WEPIA contact participants who are interested and willing to participate in a plan for introducing and utilizing water saving devices

in Jordan. WEPIA would act as a convening party and resource center for such a new concept in Jordan. Through the establishment of a core group of steering members, WEPIA would begin by implementing the steps that fall within its mandate. Specifically, it would:

- Continue coordinating with MWI on putting into action the steps outlined above, particularly Awareness and Standard Specifications of WSDs;
- Formulate into a workable format and present to MWI some of the ideas outlined above;
- Act upon some of the unanimous and doable 'hopes and commitments' such as organizing and distributing list of participants, summarize and disseminate ideas discussed in the workshop and convene a meeting within the next 4 months;
- Enlarge the pool of stakeholders to include more people involved directly and indirectly in water conservation and increase the participation of some the sectors already included (e.g. media); and
- Deliver on participants' wishes as outlined in their evaluation by providing success stories of implementing WSDs, utilize the World Wide Web more efficiently to promote WSDs, and concentrate and act upon a small and defined suggestion.

ANNEXES

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Annex 3	ACCOMPLISHMENTS AND WANT-TO-DO'S
Annex 4	FUTURE SCENARIOS
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Annex 1

INCREASING WATER EFFICIENCY BY LARGE CONSUMERS IN JORDAN

FUTURE SEARCH CONFERENCE

IN COOPERATION WITH THE MINISTRY OF WATER AND IRRIGATION - MWI

FUNDED BY THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT - USAID

JUNE 26 AND 27, 2000

AGENDA

DAY ONE, JUNE 26, 2000

- 9:00 Registration and Coffee
- 9:30 Welcome, Opening Comments, Agenda
Basic Principles of Future Search, Roles and Expectations
Focus on the Past: Milestone events/Reflections – *Group Task 1*
Reports
Focus on the Present: External Trends – *Group Task 2*
Discussion
- 13:15 Lunch
- 14:15 **Focus on the Future:** Prouds and Want to Do's – *Group Task 3*
Preferred Future Scenarios Development – *Group Task 4*
- 16:30 Closing

DAY TWO, JUNE 27, 2000

- 9:00 Check in and Coffee
- 9:30 **Focus on the Future:** Continued
Preparation for Presentations – *Group Task 4 continued*
Scenario Presentations
Developing Common Ground – *Group Task 5*
- 13:15 Lunch
- 14:15 Deciding on Priorities
Action Planning – *Group Task 6*
Closing Comments
- 16:30 End of Conference

Full attendance is requested. Since this is a working meeting, it is important that you attend all sessions on both days.

Annex 2

Future Search Conference

JUNE 26, 27 2000

Attendance List

No.	Name	ORGANIZATION	TELEPHONE	Fax	Mobile	e-mail
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65	Majed Toubeh	Al- Arab Al-yaoum Newspaper	5683333	5654886		
66	Orsan Al-Dalla	Irshaidat CO.	4621622	4624534		
67	Walid Hijazi	A.Jardaneh	5857167		523498	
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Annex 3

ACCOMPLISHMENTS & WANT TO DO'S

Technical Group Accomplishments:

- Water recycling
- Rehabilitation and upgrading of water supply system in Aqaba (feasibility study)
- Reuse of waste water & process
- Studies to save in water consumption at schools and hotels
- Creation of leakage Dir. At WAJ provided with latest equipment's
- Creation of irrigation advisory service at JVA to advise farmers on best irrigation practices
- Installing SCADA to monitor water systems in Jordan Valley
- Monitoring water quality using latest techniques
- Implementing dynamic regulations at JVA

Technical Future Want To Do's:

- General acceptance of the re-use of treated effluent in agriculture
 - Implementation of WSDs on wide range (exempt from taxes)
 - Upgrade and rehabilitate water networks.
 - Regional cooperation for conventional and non-conventional water resources
 - Private sector involvement
 - Enforce legislation
-

Advocacy / Education Group Accomplishments:

- The use of water valves after tanks to be shut down after working hours in Schools
- Using aerators
- Using a bottle of water in flushers tanks
- Reusing of ablution water in irrigation

Advocacy / Education Group Future Want To Do's:

- Using WSDs in flushers
 - Using faucets with rods which works only when rods been moved
 - Collecting rain water and use it in irrigation and car washing
-

Hotel Sector Accomplishments:

- Adding a piece to minimize water flow "restrictor"
- Building wells to collect rain water
- Low-flow shower heads – 8 liters /min
- Installation of aerators on wash basin taps 4 lit/min. and 6 lit/min for kitchen sinks
- Regulate toilet flushes by installing special fixtures to discharge max 6 lit / flush
- Install drip irrigation method
- Direct rain drainage into plant beds
- Maintenance and full time monitoring
- Staff training on maintaining WSDs and constant reporting on leak detection
- Water use efficiency program
- Install sub-meters per zone
- Incentives to staff participating in energy and water savings

Hotel Sector Future plan (Want To Do's):

- Install water desalination plants (dead Sea & Aqaba)
 - Water treatment plants (in-house)
 - Selection of min use of water production equipment
-

Hospital Sector Accomplishments:

- Reusing water from kidneys washing systems after the Ro system to the main water tanks
- Reusing the condensed H2O vapor by collecting it into tank and then reusing it in feeding boilers and turbine

Hospital Sector Future Plan (Want To Do's):

- Installing WSDs
 - Installing water restrictors "controlling water flow"
 - Installing aerators
-

NGOs Accomplishments and Future Plans:

- Measuring water awareness
 - Develop environmental education materials
 - Produce documentary films
 - Environmental competition
 - Promote WSDs
 - Teacher training
-

Funders' Accomplishments and Want To Do's:**WEPIA:**

- Survey of large water users
- Started an education program for children "Tartasheh"
- Large scale education programs through NGOs
- Community small grants
- 85% of large public consumers

KFW:

- Waste water treatment
- Water supply
- Low interest loans (4%) to private sector to retrofit with WSD
- Conditionality for schools construction loans to government

USAID:

- Strengthening water institutions (MWI, WAJ, JVA, and NGOs)
 - Increasing available fresh water (irrigation efficiency, water plant, rehabilitation to Amman network)
 - Improving WW quality (Assamra, Aqaba, Mafraq, Wadi Mousa)
 - Retrofitting 20% of public buildings
 - Increasing irrigation efficiency
 - PSP (water, WW, desalination)
-

Universities Group: Accomplishments

- Study on the use of WSDs in Jordan
- Awareness, water campaign
- Xeroscaping, selection of low water consumption plants

- Use of treated waste water for irrigation
- Use of gray water in hotels and hospitals
- Web Site for water conservation
- Measuring changes in behavior of Jordanian before and after the campaign

Universities Group: To be achieved

- Increase awareness, through media
- Water conservation policies to be broadcast between foot ball matches
- Enforcement of regulations
- Develop a new water saving policy
- Privatization
- National plan on water uses
- Upgrading the national codes (WSDs Toilets water fixture)

Policy Group Accomplishments:

- Privatization of water services and waste water in Amman
- Renew of water pump stations and water nets, improve water quality, and decrease wasted water, rescheduling of water distribution tables.
- Finding new water resources, start building the unity Dam.

Policy Group Future Plan:

- Using privatization on the kingdom's level
 - Looking for new water resources, finding necessary funds for it
 - Using WSDs by all consumers
-

Suppliers' Accomplishments:

- Installing WSDs in several sectors
- Treating waste water and reusing it
- Collecting rain water

Suppliers Future Plan:

- Using WSDs to cover most of sectors
 - Finding more efficient devices with more variety to meet the need in Jordan's markets
 - More use of media sector to serve this purpose.
-

Annex 4

FUTURE SCENARIOS

GROUP 6: NATIONAL WATER MASTER PLAN, EQUITY: SHARED WATER

Institutional Reform:

- New form of institutions
- Partnership & platforms among public & private sectors, NGOs and academia
- Privatization of water supply services, i.e., ops., pumping, billing, treating and maintaining.
- BOT: intersectoral, multisectoral, task forces

Legislation reform:

- Economic incentives
- Tax exemption
- Economic benefits
- Regulations, laws, by-laws, and guides
- Collection and harvesting rain and other reusable water

E-water:

- Info. Technology "Optimization of water usage"
- Bio technology
- To naturally recharge
- Ground water

Education and awareness:

- Knowledge
- Skills
- Values

Table 7 - A concern denominator among the events lies mainly:

- A concern has emerged about water depletion and finding new resources
- Moving away from purely political policies towards economical-political concepts.
- Cross border water dependency on water resources will be a major factor to secure water supplies to the consuming parties

Regulations:

NGOs, Media and educators, lobby to get legislations that allow import of WSDs only, and to increase the water prices and to remove subsidy

2005 National Council for WSDs:

- Production of local WSDs
- Certification for exp.
- Reduce WSDs prices
- Water tariff
- Building permits Grey Water use
- Continuous awareness programs

Reasons for Arid Jordan:

1. Depletion, exploitation, pollution, mismanagement, rain shortage
2. High Demand: Population growth rate, Development of agriculture industry and tourism
3. Politics and policies: Peace process, higher water tariffs, privatization, regional, and international agreements, tools (water management projects; Dams, water harvesting, and bottles water.

Suggestions:

- A comparison between the consumption of large water consumers in Jordan with international figures.
- Elimination of cooling towers where practicable
- Governmental funds for maintenance

Tourism Industry: Hotels, Rest houses, and Interpretation centers:**Develop an appropriate sanitary unit / system:**

- Water used in basin – reused for flushing
- Timed water showers
- Maybe communal
- Using WSDs and regulatory valves
- Awareness for employers, employees and workers and end users / visitors, orientation, and green practices
- Landscape: develop and implement national bldg codes for conservation
- Parks and gardens for hotels: using draught resistant plants
- Ban, car automatic cleaners and unconscious use of water at petrol stations
- Introduce relevant legislations for recycling and plants
- Share cost (governmental and private investors)
- Big fines for misusing water

TABLE NO. 5 – 2005 SCENARIO

1. Laws and regulations:
 - Water connections regulations, permit after WSDs installation
 - No flat rate water tariffs, gradual JD1.200 increase after 500 M3/quarter
 - Building permits tied with WSDs on building design
 - Law of incentives
 - Custom and sales taxes law to exempt WSDs fully No 23% pay, conditional tax Free
2. Affiliate awareness campaign WSDs government buildings, Universities, and schools
3. Develop design for Pressure-free, Pressure comprehensive, and non pressure dependant
4. Manufacturing, franchise local company with Europe manufacturer Japan Far East and US ... etc.

Annex 5

COMMON GROUND & PROMISING IDEAS

Common Ground

- H₂O Share-Saving Project, between suppliers and consumers.
- The Sentence (Dear Visitor, Please Conserve our water/ Hotel Management) to be placed in Hotels.
- Create individual sense of Responsibility towards water consumption.
- Complete exemption for WSD from Taxes and service charge.
- Continued Co-operation and Co-ordination at multi & Intersectoral Levels.
- Incorporate Water Conservation concepts into curriculum.
- Require Water Recycling /Reuse by Large Consumers, e.g. Industry.
- Ban Crops that are uneconomic in terms of water costs.
- Curriculum Development
- Regulations for land use planning
- Water Harvesting and Recycling
- Mandatory Regulations for building codes and landscaping.
- Implementing New Laws and Instructions encouraging and obligating the use of WSDs.
- Privatization of Water Service Management.
- Using WSD National Standards.
- Implementing new standardization and measurements Specification for water sanitary fixtures and WSDs.
- Enforcement of legislatives through using executive system
- New Laws: -
 - Conservation
 - Taxes to be eliminated
 - Fines and penalties
 - Pricing water by Use and users
 - Codes for New Buildings and Conversion of old ones
- Special Legislations for the use of WSDs
- Review and renew Regulations and Specifications related to water consumption.
- National Water Awareness Programs and campaign.
- Reuse of Grey Water.
- Alternative Water Sources.
- Incentives and Sanctions Implemented.
- National water Council: -
 - All Sectors to be involved.

- National Long-Term Strategy
- Rethink Water Policies
- Ease of spreading Ideas to all sectors
- National Awareness Campaign
- Generalize awareness programs umbrella to reach individuals.
- Create Better Technical specification for Sanitary networks.
- Make more efficient Water Use.
- Water Harvesting & Reuse of Grey water into irrigation.

Promising Ideas

- Water pricing based on accurate input-output models
- Prioritize water use by different sectors
- Re-evaluating of water pricing for large consumers
- Encourage habitants mobilization towards areas having water resources
- Establishing water security court
- Special awareness programs for women
- Concentrate on “virtual water concept and applications”
- Local WSD production manufacturing with reasonable prices to be accessible to all categories.
- Not to give permission to build for those who are not complied with the given standards

Annex 6

Projects' Analysis

1. Project - What is the idea?
Awareness
2. What is the goal/objective of this project/initiative?
To make all water (Stop Fix) Leakages using sector aware of the use of (WSDs)
3. What will be the impact if it is implemented?
 - **Increasing time span for using the same amount of water**
 - **Money saving**
 - **Protection of strategic water storage for coming generations**
4. What resources, expertise, support from stakeholders or volunteers will be needed? **
- Media, Ministry of Education, NGO's, Custom department, Ministry of Awkaf, international funding agencies, and workshops and training courses
5. What will be the first steps? (Consider who, what and when)
All water consumers in Jordan, starting now
6. What do you see as major roadblocks or obstacles? How will you get around them?
Financial, technical (water nets), Social (environmental, cultural and geographical), end user financial state
7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.
Asem Faqir, Mazen Abu-Saad, Mamoun Talhouni, Walid Laban, Mohammed Malkawi, Dermot Keegan, Tandour Rihani, Basil Kharabsheh, Yahia Abu Laban

-
- 1- Project - What is the idea?
Review of current water tariff
 - 2- What is the goal/objective of this project/initiative?
 - **Establish / identify real cost of water**
 - **Use water tariffs as an incentive to reduce water consumption**
 - 3- What will be the impact if it is implemented?
 - **Burden on those who do not save**
 - **Individuals will adopt water consumption reduction techniques**
 - 4-What resources, expertise, support from stakeholders or volunteers will be needed? **
 - **Efficient management information**
 - **Setting target consumption per individual**

- **Proper metering system**
- **Proper billing system**

5- What will be the first steps? (Consider who, what and when)

- **Identify minimum consumption per individual and set as target**
- **Provide incentive for consumption less than target**
- **Penalizing for consumption above the target**

6- What do you see as major roadblocks or obstacles? How will you get around them?

- **Large water consumers**
- **Consumers billed at reduced tariffs**
- **Inefficient industries**

7- Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.

**Dr. Bassam Talhouni, Nedal Al-Zatari, Moh'd Khalil, Mailsoon Al-Amarneh
Walid Khalidi**

1. Project - What is the idea?

Law for water conservation

2. What is the goal/objective of this project/initiative?

- **High water efficiency**
- **Installing WSDs**
- **Water flow control**

3. What will be the impact if it is implemented?

- **Less water waste**
- **Encouraging development and investments**

4. What resources, expertise, support from stakeholders or volunteers will be needed? **

- **Money**
- **Technical support**
- **Support of citizens**

5. What will be the first steps? (Consider who, what and when)

- **Forming a technical committee from main sectors**
- **Preparing the project feasibility study**

6. What do you see as major roadblocks or obstacles? How will you get around them?

- **Implementing laws, application mechanism, and inspection system**

7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.

Ziad Alawneh, Orsan Al-Dala, A. M. Barbar, Rushdi Abdullah, Jihad Zubi

1. Project - What is the idea?
Improve environmental concepts in education curriculum within integral curriculum plan
2. What is the goal/objective of this project/initiative?
 - **Enhance positive behavior toward environmental elements**
 - **Building personal responsibility**
 - **Using social, cultural and religious concepts to reach our goals**
3. What will be the impact if it is implemented?
 - **Bringing up a new generation with better understanding**
4. What resources, expertise, support from stakeholders or volunteers will be needed? **
 - **Internet connection**
 - **Educational guide (directory)**
 - **Technical and financial support**
5. What will be the first steps? (Consider who, what and when)
 - **Forming technical committee**
 - **Workshops to prepare the feasibility study**
 - **Starting July 2000 by RSCN and MOE**
6. What do you see as major roadblocks or obstacles? How will you get around them?
Policy makers, financial resources, support of public opinion
7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.

Ahmed Al-Rousan, Manal Fuqaha, Dr. Odeh Jayyousi, Dr. Moh'd Kharabsheh, Azmi Shahin, Shihab Beiruti, Fitna Kalaji, Sana Imam, Rawda Abu- Taha, Moh'd Qadan

-
1. Project - What is the idea?
Legislation to form the "National Council for water"
 2. What is the goal/objective of this project/initiative?
 - **Unity of all efforts to conserve water**
 - **Providing good water quality for drinking**
 - **Members should be with technical background and specialized sectors**
 3. What will be the impact if it is implemented?
 - **Providing good water quality for citizens**
 4. What resources, expertise, support from stakeholders or volunteers will be needed? **
 - **The support of MWI, Ministry of Planning, MOE, all NGO's and international agencies that can help**

5. What will be the first steps? (Consider who, what and when)
 - **To have the national council responsible for passing recommendations to the government who will be responsible for decision making**
6. What do you see as major roadblocks or obstacles? How will you get around them?

Financial supports, can be overcome by funds from the government
7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.

Dr. Farah Rabadi, Walid Hijazi, Dr. Kamal (University hospital), Eng. Yousef Hindeleh

-
1. Project - What is the idea?
 - **To review and renew the Jordanian standard specifications related to fittings for sanitary fixtures.**
 - **Setting special Jordanian standard specifications for WSDs**
 2. What is the goal/objective of this project/initiative?
 - **Quality control for all imported products and locally manufactured sanitary fixtures and WSDs**
 3. What will be the impact if it is implemented?
 - **Insuring quality for the end users**
 - **Using WSDs**
 - **Water conservation**
 4. What resources, expertise, support from stakeholders or volunteers will be needed? **
 - **Global Standard specifications (DIN, BS, ASTM, EN)**
 - **Specialized engineers presenting all sectors (government/ministries, universities, NGOs, Engineering Association, Contractors Association)**
 5. What will be the first steps? (Consider who, what and when)
 - **To have the Jordanian Standard Specifications Establishment adjust specifications required by forming a specialized technical committee to study and put new standards to become obliged with in 3 months after announcing it in the newspaper.**
 6. What do you see as major roadblocks or obstacles? How will you get around them?

Rejection of suppliers and manufacturers to generate specifications with lengthy procedures
 7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.

Setta Abu-Jamra, Dr. Wael Abu shar, Jihad Kharma, Mohammed El-Otom, Falak Sarraf

1. Project - What is the idea?
 - **Privatization of Water sector in Jordan**
2. What is the goal/objective of this project/initiative?
 - **Increase of water efficiency**
 - **Increase incomes from water delivery to consumers**
 - **Increase technical efficiency for teams working in this field**
 - **Convince decision makers with the advantages of privatization**
 - **Provide the legislation needed to implement privatization**
 - **Reforming of water sector to attract private sector (administrative, financially and technically)**
3. What will be the impact if it is implemented?
 - **Improve the service**
 - **Increase technical competition**
 - **Achieving above mentioned objectives**
4. What resources, expertise, support from stakeholders or volunteers will be needed? **
 - **Specialized technical resources, scientific and practical expertise, and finding responsible leadership to take hard decisions and taking the initiative to implement them**
5. What will be the first steps? (Consider who, what and when)
 - **Collect information, conduct studies**
 - **Gain the permission from concerned authorities to start the privatization**
 - **Reformation of Water establishment to suit the privatization system**
 - **Train employees through workshops to understand and accept privatization concept**
 - **Implement privatization in very studied steps and very well planned strategies by choosing an entrepreneur region.**
6. What do you see as major roadblocks or obstacles? How will you get around them?
 - **Rejection from employees fearing to loose their jobs**
 - **Rejection from legislative parties**
 - **Showing the privatization advantages through workshops**
 - **Conduct interviews with representatives from legislative parties to convince them with privatization benefits.**
7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.

Moh'd Istaitieh, Yousef Abaddi, Randa Tuffaha, Moh'd Mheisen

1. Project - What is the idea?
Grey Water Reuse
 2. What is the goal/objective of this project/initiative?
100% of all the new consumers should have Grey water reuse systems by 2010 and existing consumers by 2020
 3. What will be the impact if it is implemented?
Narrow the future gap between demand and supply deficit
 4. What resources, expertise, support from stakeholders or volunteers will be needed? **
Government & funding Agency, Building developers, consultants, NGO & Suppliers
 5. What will be the first steps? (Consider who, what and when)
Legislation, establish code & Standards and Enforcement Agency tomorrow
 6. What do you see as major roadblocks or obstacles? How will you get around them?
Finance/Technical Capability "Lack of Awareness". Or acceptance seek finance/Make use of training other people exp./Education Program
 7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.
Faris Isma'il, Ghadeer Abu-Azzah, Rania Abu-Leil, Robert Bridges, Samir Jouaneh, Yahia Majali.
-

1. Project - What is the idea?
Xeroscape - Landscape
 2. What is the goal/objective of this project/initiative?
More Beauty & greenery to the gardens and urban environment
 3. What will be the impact if it is implemented?
Increasing gardens with minimum watering
 4. What resources, expertise, support from stakeholders or volunteers will be needed? **
Land & support from municipality and Ministry of Agriculture / Utilization of recycled water
 5. What will be the first steps? (Consider who, what and when)
Dialogue with Municipality, Ministry of Agriculture
 6. What do you see as major roadblocks or obstacles? How will you get around them?
Lack of experience & lack of time cost
 7. Who was in the group discussion? Circle the names of those who may be interested in helping with this project as we go forward.
Subhi Fahmawi, Adnan Habbou, Leen Fakhoury, Mona Grieser
-

ANNEX 7

Hopes & Commitments

- Integrated curriculum
- Summarize ideas and recommendations to be disseminated among participants.
- Commitment and taking initiative by individuals, family and schools.
- Encouraging local community to save water.
- For WEPIA to continue successfully
- Committing ourselves to consider the conclusions and implement them
- Cooperation between private and public sectors
- Complete awareness to appreciate every water drop
- Improving water nets
- Finding new water resources
- Work to efficiently use the water
- To feel responsible towards water
- Equity for water use
- Team work is very important as water is a very vital issue
- Working to improve water quality
- Hope for more rain falls
- Change curriculum to change new generations behavior
- Buy WSDs
- Commitment from concerned parties to implement recommendations
- To meet again for those were here in the next 4 months
- Cooperation between Arabs to solve water problems
- To see the results of this workshop
- To continue what we started during this workshop
- To appreciate WSDs and use them
- Water harvesting and collecting from the roof
- To be aware enough to spontaneously use WSDs
- Privatization of water sector
- To have a list of participants
- Regional cooperation to solve water crisis
- To focus on this issue by Media
- To have Comprehensive Education Program
- For Jordan to become a model in using WSDs
- To feel the real volume of water problem
- To be facilitators and not dictators

Annex 8

Evaluation

Questions asked:

- 1. What was the most useful about this conference?**
- 2. Any comments on the Future Search methodology?**
- 3. What would you like to have seen done differently?**
- 4. Other comments?**

Answers received were:

1. Getting a wider exposure on issues related to water conservation.
2. The methodology was more one sided, the present audience?
What about the study, its methodology and orientation?
3. Some exercises (introductory especially) were over done. It might have been a breaking of the ice – yet?
4. The use of 2 languages sometimes was exhausting. “Preferable for future in one language”

- Leen

1. Meeting other interesting groups and sharing ideas
 2. Very productive / active involvement and participation were promoted throughout fostered a sense of “ownership” in ideas and future proposals.
 3. Some of the wall charts produced confusing results. Aim to increase their clarity. Duplication of all Arabic + English – some of the comments, common goals promising ideas, presentations, were not understood. Include legislations.
 4. A very worthwhile and productive event. In order to support and consolidate its conclusion, I would like to see a report and conclusions, circulated amongst all participants. And to be kept informed of follow up activities in the WEPIA programs
-

1. The water efficiency map was really good and useful. The fact that I worked in more than one group.
 2. The methodology was very good, though I think that the only shortcoming was that it was bilingual, which made it sometimes boring this is not under the control of the organizers.
 3. Have more selected people. E.g. only people who have a real interest in the subject, like the media wasn't really representing because the people present were not interested. However, I think that this problem wouldn't be present next year, since the project would have worked with most sectors and only interested people will come.
-

1. The installation of WSDs may become larger, meeting wonderful people.
2. The issue should be more specific.
3. To concentrate more on WSDs.

4. Thanks to WEPIA
 - Orsan Al-Dala
-

1. Vitality of participants and issues.
 2. Annoying, less productive
 3. Facilitators should be experts in the subject.
 4. Refer to 3
-

1. Opened up our eyes on so many issues related to water. I loved the spirit of the teamwork.
 2. Future search is a completely new methodology, which I think was very creative and interesting.
 3. I would like to have this seminar outside Amman as it was planned earlier. (We tried this in other workshops, it was very successful).
-

1. Synergizing between all participants.
 2. I would like to make sure that we learned from the past-implemented WSDs' failure, so that we make sure that this will last and sustain for good.
 3. I would like to see samples of WSDs and success stories before we start.
 4. I would like to thank you all for this, hoping to receive a report and a list of attendance, and if you have achieved any results it is good to inform us all so that it will be a common achievement.
- Nidal Zatari
-

1. The close contact with different people of different education and experiences.
 2. A summary of the ideas to be put together and to be presented to participants.
-

1. Learning about Future Search Methodology. Learning about different ideas regarding WSD. Meeting people into similar interests.
 2. Extremely educational, gets to the point easily.
 3. Very hard to suggest anything, it was brilliantly conducted and orchestrated.
 4. No comments
-

1. To see all the sectors from Jordan Internet.
 2. FS methodology is excellent group participative methodology.
 3. A real FS conference supported and held by gathering 2 and half days isolated from Amman.
 4. Excellent Facilitators.
-

1. The theme
2. Acceptable
3. The events (i.e. global, water & personal) points should have been limited to matters related to water.
4. All fine

Note: Lighter lunch

1. Both organizers and participants benefited from such a conference. New, old, innovative ideas were shared.
 2. Not stressful, quite efficient, and keeps you alert.
 3. Nothing, I just hope that all sectors now and in the future will benefit from this conference.
 4. More seminars should be done this way, where all participants give a hand in the discussion.
-

1. Group discussions & variety of materials
 2. The methodology is Great.
 3. Did not expect to enjoy the conference but turned up to be a unique method and approach.
 4. Well-done, great job.
-

1. Very successful conference, I have learned a lot. It was really unique and well organized.
2. Methodology was excellent, however, I hope to receive the conference conclusions and recommendations.
3. Hope next conference will be out of Amman to have full participation.

- Shihab Al-Beirut

1. Most beneficial was the approach itself.
 2. Adapt similar approach but with more emphasize on mandate and objectives of the activity.
 3. I would like to congratulate Katharine, Hala, and Oussama for their effort and great achievement. Real good Job ☺
- WAY
-

1. Teamwork and objectiveness.
 2. Excellent methodology
 3. Need more breaks
 4. Thank you, a job well done.
-

1. Exposure to a wide spectrum of specialists in various fields and interested in water consumption reduction.

2. The methodology used is excellent and has aroused interest in all participants.
 3. The outcome of the conference
 4. Excellent work
-

1. Working in groups benefits
 2. Made us feel like decision makers
 3. More decision makers and interested persons as members
 4. Thanks for the information and relations that we got.
-

1. To see other people' point of views or ideas on how to tackle this problem.
 2. Free useful approach less boring
 3. Nothing
 4. Hope that WEPIA will conduct this meeting every six months – year during the duration of this project.
-

1. Choosing decision makers to make implementation much easier.
 2. To evaluate the benefits from ideas, good.
 3. Concentrate on using WSDs.
 4. Good luck
-

1. Tele-communication regulations
 2. I think it would be the same
 3. More use
 4. Thank you
-

1. It identified & explained the problem of water of water shortage and the way to use WSDs.
 2. To be more specific and to concentrate on one or two of the items discussed in this conference.
 3. Keep it the same way.
 4. Thank you
-

1. One of Jordan's most serious problems, being opened for discussions
 2. Well tried – works well
 3. Faster pace
 4. Very enjoyable and informative
-

يلبق تسمل ا ث ح بل ا م ي ي ق ت

قل یسألہ

1. ؟تش رولا هذه يف مكمل قذافا رثكألا ناك ام
2. ؟لي بقت سمل ا ثحبلا ةيجنم نىل ع مكق يلعت وه ام
3. ؟نوري يغت دق يذلا ام ،ادجم رحبؤملا اذه دقع مكمل نىست ول
4. ؟رخأ قىلعت نم له

ت: اباجال

1. مايملا كمالهتسا ديش رتل حى اصن و قزه جا دوجو ىل ع قى عوتلا و فير عتلا
2. نى كراشم لب نى عمتسم طقف انل ع جى ال و عتم و زاتم بولس
3. يتلا تاروطتلا يه ام قفر عم دعب ىرخا بن اوج نم رمتؤملا طيشنت
لوالا رمتؤملا دعب تلصح
4. ال

1. امرکز مهت يتل ددعت مل ا عيراش مل و تاسايسل و راکفال اىلع عالطال
فشرول ايف
2. ملو دارفال او ني عمت جمل ا عيمج کارتش اىلع تلمع و قزاتمم ايه جنمل
ايس يىزل راکفال ا فکراشم ،فشرول اقدم لواط روتف و ا لىلم ا اطلختي
قطي سبل او
3. ع عيرس و قديقم ترم تا عاسل ا ني عم ري غت دو جوب دقت ع ال
4. قدي دجل راکفال او قلوب مل دوه جلا اىلع ني مئ اقل و ني لم اعلا عيمج رکشا
لص او تل ا رامتسا لم او

1. عوض و مهلا اذهب ين عت يتلا قفلت خملات اعاطقلا عيم ج عمل عافتلا
(قايمل الكال متسا ديشرت)
2. (ين مذل افصل عل) دي دجل راكفال طابنتس إل قل اعفو عتتم قراتم ققيرط
3. ال
4. يف عيم جل ابء اقل لا لم يل ع عورشمل اذه يف حاجنلا (ايبيو) ل ين متن
اهجئاتن روطتل قل تامم ىرخا قشرو

1. نم تدافستال او ندرالآ يف هايمل قل كشم ملع عوضلا نم ديزم عاقل
ن. يفر اشمل قوفلخ عونتل ةحي تن تاهجوتلا و ارالافل تخم
2. ج. هنلا اذه لثمب رارمبسال اب حصنأ و زفحم و طشنم فيطل بولسأ
3. امظنم و اديج ناك ثيح قدص لكب اييش ريغأل
4. ع. يمجلأ فتاكتلالخ نم ببجلأ ان دلب ةحلصم هيف امل قفوملا للل

1. دن ع هامل اكاكتسا يف داشرالا و تيوعتلا ين عم عيمهأ مدع فرعتلا
2. رمؤملا اذه يف امثحب مت يتلا تديعل ااحورطلا و نيكل متسلم رابك
3. قطيسب و حضاو و قراتم تن اك ققيرطلا
4. قدص لكب ائيش ريغأ ال
5. ققيرعت ال

1. ديدحت و ةيئاملا ءافكل اغفرل تايلولال ديدحت ةيفيك وه ءافا رثكال
لم عل ايلأ
2. تاوجل نم مغل لكل جاتحن و قيرطل ايب يف انلزام اننا دقت عل
اكرتشل ينطول لم عل ا ضررل ا فاضال اب قفلل اخل
3. تامول عمل ضررل ايدل قتل ا قيرطل ا ن ع جورل اعطلسا ، عئار مبول
ايموك حل ريغ و ايموك حل ا اعطلل اكارشا و
4. ةيئاملا ا عولل ا عورشل ا دي عس ظح

1. عتي عامجل فكرياشمل
2. قرودل اتقو و جم ارب يف عسوتل عم ففثكم تارود دقع
3. عي عامجل بولسلال سفن يف يقبي، قيلعت ال
4. لقالا كل هتسمل و طسوتمل كل هتسمل لمشيل ث حبل اعيسوت و چرا
هاملل

1. جئائت ال اصل ختسا و شاقنل اقراا يف يمل عل بولسأل
2. زاتم
3. عيش ال

1. ی عام چلالم عل او ٲی طارقم یدل اب مٲتت چئی اتن ىلا دن تسم لم ابول سأل
2. ده چل او تقو ل رفومو ٲلم ع و عئ ار بول سا
3. ٲش ال
4. دچو ي ال

1. تار بخل وءارأا لدابت و شاقنلأ يف ءي ءام ءلا فكراشملأ
2. و فكراشملأ ب ءيم ءلل ءمسأ و ءءار يل ب بقأ سملأ ءا ءبلا ءي ءنم ققيرط
را الكألا مءي ظنأ
3. رارقلا يذ ءأم مازأألا و ءقاولأ ضررا مل ء ءئائأألا ض ءب قيقأ ءأ ءرن
كأال مسألا دي شأأ مءي ءافمب
4. لم ءلا مءي ققأ و ءءءار ءل قنأ س ءءب رءا رماؤم ءق ء

1. فكثر شملنا لكفألنا عضو يف نواعتلنا و دعامل جلنا حور
2. اقلق قحت نكلمي و قين القع و عيقظنم لكفألنا نوكت نأ
3. رمبؤمنا اذه يف مزاجنا مت دق لم مامتا

1. مَشْرُوعَاتُ يَتْلُوهُ هَذِهِ يَفْهَمُ نَظْمَ رِثْكَالِ
2. وَتَأْيِصُوتُ عِبَادَتِ يَكُلُ يَسْأَلُ وَيُرَوِّضُ يَلْبِقُ سَمْلَ ثَا حَبْلَا
أَهْيَلُ لَوْصُولَا مَتَّ يَتْلُو تَا حَارْتَقَالَا
3. نِيكَرْتَشْمَلَا يَلْعَزُوتُ عَوْضُومَلَا لَوْحَاقِبِسْمَ قَدْعَمَ اقَارَوَانُ وَلِىْنَمْتَأُ
رَمْتُومَلَا دَاقَعِنَا دَعُومَ لَبِقُ
4. قَفُومَلَا لُحْلَا وَرَمْتُومَلَا يَلْعَنِيْمُ يَأْقَلَا لُكُلْ أَرَكْشُ

1. و تا ص ص خ ت و ت ا ي ف ن م د ا ر ف ا ف ل ف ر ا ش م ، د ح ا و ل ا ق ي ر ف ل ا ح و ر ب ل م ع ل ا
ة ع و ن ت م ل ا ر ا ك ف ا ل ا ب ف ش ر و ل ا م ذ ه ي ذ غ ا م ف ق ل ت خ م ت ا ع ا ط ق
2. ي ع ق ا و ل ا و م ي ل س ل ا ط ي ط خ ت ل ا ن ا ث ي ح ا د ج ق م م ي ل ب ق ت س م ل ا ث ح ب ل ا ق ي ج م م
و ه ف ل ك ش م ل ا ب ل ص ي ف ع و ق و ل ا ل ب ق و ة ع ي ر س ل و ل ح ي ل ا ل و ص و ل ا ف س ر ا م و
ا د ج م م
3. ل م ع ن ي و ع د م ل ا ن م ب ل ط ل ا م ت ي ث ي ح ر ي ي غ ت س ي ل و ف ف ا ض ا ع ق ا و ل ا ي ف و ه
ر ب ك ا و م ع ا ت د ا ف ت س ل ا ن و ك ت ي ت ح ن ي ع م ع و ض و م ي ف ق م ع م ف س ر ا ر د و ا ث ح ب

1. جئائتنلا ىلا لوصولل مب جردتلا و ميلسرلا و يملعلا ريكتفتلا قفرعم قبولطملا
2. دي ج
3. عيش ال
4. امام ال ىلا

1. رظنل ا تاهجو و ءارأل لدابت و شاقنل ا تاقل ح يف عونتل ا

2. عقوق اول ضرراً على عاقبي بطلتو عيني اديم لم ع شرو دوجو
3. مزاجنا متي نل ام لبس يفت حبل او مزاجنا مت ام عباتم

1. انل قدافا رثكالا ناك كرتشمل لم عل
2. تاي نكما يطعي يضا مل و رضا مل قسارد لال خ نم لبقت سمل رظنل
3. مقيقت نكمي مل لصفأ
4. نام ع قني دم جراخ يفت رمتو مل عقوم

1. ريغ ريبتل او عيوي حل تارب خل و ،ءارال لدابت ،فل عفل طكراش مل
2. اهل ع متي يتل تارمتو مل مظعم يفت فول مل
3. هذيفنت نكمي و عي و عوقا ،ل سلستم ،يلم ع
4. عيش ال

1. عم تبتا يتل قيرطل هذه نم قدافتس ال او قدافا رثكالا
2. عمت حمل ممت عيتاي ح تالاجم يفت نيكراش مل
3. تيبثتل عمت قيرطب تمدختسا عيديقت ريغ قيرطل هذه
4. امنم فدل مل و قركفل

1. كرتشمل عيضرال دي دحت يفت تناك رثكال ادي افل
2. لقأ روضح ددع ال عا حيل ودي نكل فل ع و قفاش عي جمل
3. ام لثم باي غل نم نوكراش مل نكمي ال يتح ادي ع نكمل نوكي نأ
4. (نامز قبيط ،ني عام ،قبق عل) اططخم ناك

1. هايمل لثم ال م ادختس ال يفت عي عوتل تالحم على ع رثكال فرعتل
2. عمت قتل عمت لول حل تاروصت عضوت نأ و عي عوقا و رثكال نوكي نأ
3. عيوي ح و طشنم عوقا اول يفت و مو عمت حمل حيارش
4. موقن نأ نكمي تاطاشن و تايلا ع نم رمتو مل مدمق ام ال قفاضا

1. تايلا عفل نم ددع عاقلل و عيني اديم تاراي زب
2. دجوي ال
3. كلذب قصا خل قزه ال قطس اوب هايمل ريفوت قرط نم قدافتس ال
4. ططخل قيبطتل قزالل تاوطخل اب عيني عمل تاهل عي م ج ادبت نأ لم

1. عرخا تاطحالم دجوي ال و قديج تناك رمتو مل اب راد يتل قيرطل
2. قيل عت ال
3. اهيل ع قظف حمل ادي رارمتسا قرورض و امل قمي قبق قفر عمل و عي عوتل
4. و امن يزخت و هايمل رداصم نع ث حبلل قروطنم بيل اسأ م ادختسا بجي

1. اينبت و صيخت لم ع و ماتخل قسل ج يفت ول و رارقل باحصأ قوع
2. هذيفنتل ددحم تقو و اطلع و اارال هذه
3. ركشل عم
4. ركشل عم

1. ل ج أ ن م ق ر ط ل ا ى ت ش ل ا م ع ت س ا و ه ا ي م ل ا ر ي ف و ت ق ز ه ج أ ل ا م ع ت س ا ق ر و ر ض -
ة ع ا ن ص ل ا ع ا ط ق ي ف ق ص ا خ و ق ر ط ق ل ك ر ي ف و ت
ط ط خ ل ا ع ض و ه ج و ي ف ف ق ت ي ت ل ا ق ئ و ع ل ا ف ل ت خ م ى ل ع ع ا ل ط ل ا -
ك ا ل م ت س ا ل ا د ي ش ر ت ل ة ي ل ب ق ت س م ل ا
 2. ي ف ك ل ع ج ت ا م ن أ ت ي ح ب م ل ا ع ف و ت د ي ف م ق ق ي ر ط ي ل ب ق ت س م ل ا ث ح ب ل ا ة ي ج م م
ق ب س ا ن م ل ا ل و ل ح ل ا ج ا ر د ا م ت ن ا ل ا ق ل ك ش م ل ا ب ل ق
 3. د ق ل و ل ح ل ا و ا ر أ ل ا ع ي م ج ن و ك ت ت ي ح ب ى د خ أ ق ر م ر م ت و م ل ا ا ذ ه د ق ع ي ن أ ى ن م ت أ
ن د ر أ ل ا ي ف ه ا ي م ل ا ل ك ا ش م ل ح ن م ن ي ب ي ر ق ا ن ح ب ص أ و ت ق ب ط
ر ك ش ل ل ك
 - 4.
-

1. و ق ص ا خ ل ا ت ا ع ا ط ق ل ا ف ل ت خ م ن م و ه ا ي م ل ا ر و م أ ب ن ي م ت م ل ا ن م د د ع ب ا ق ت ا ل ا -
ت ا ئ ي م ل ا و ق م ا ع ل ا
ا م ل ا م ع ت س ا ق ر ط و ه ا ي م ل ا ل ك ا ش م ى ل ع ع ا ل ط ل ا -
ج م ا ر ب ل ا و ت ر ا ر ق ل ا د ا د ع ا ي ف ق ك ر ا ش م ل ا -
ي ص خ ش ل ا ي أ ر ل ا ا د ب ا -
ق ي ر ف ل ا ح و ر و ي ع ا م ج ل ا ل م ع ل ا -
 2. ل و ص و ل ل ة ع ب ا ت م ق ق ي ق د ت ا و ط خ ي ف ر ا س ل ب ق ت س م ل ل ي ج م م ل ا ث ح ب ل ا
ق و ج ر م ل ا ف ا د ه ا ل ا ى ل ا
 3. ه ا ي م ل ا ك ا ل م ت س ا ن ع ت ا ر ض ا ح م ق ف ا ض ا ل ب ق ر و د ل ا ج م ا ر ب ى ل ع ر ي ي غ ت ا ل -
"ق ل ت م أ" ة ي ق ي ب ط ت ل ى ا س و -
و ي د ي ف م ا ل ف أ -
ا ه ي ف ا ج ا م ق ي ب ط ت ى ن م ت ن و ة ح ج ا ن ق ر و د ل ا
 - 4.
-

1. ق ف ر ع م ي ف ا ر ي ب ك ا ر ث ا ت ا ص ص خ ت ل ا و ت ا ر ب خ ل ا و ت ا ه ج ل ا د د ع ت ل ن ا ك
ت د ي د ج ل ا ر ا ك ف أ ل ا و أ ا ه ب ق ل ع ت ي ا م و م ت ا ذ ع و ر ش م ل ا ا و ا س ا ر ش ت ن م و ا ف و ر ع م ن ك ي م ل ا م
د ي د ج ت ل ل و ا ح ي ث ل ا ن ش ل ا م ل ا ع ل ا ن م ر ب ت ع ي ن د ر أ ل ا ك د ل ب ب ر ا ش ت ن أ ل ا ب ت ا د ب ي ت ل ا
ر ا ك ت ب ا ل ا و
 2. و ت د ي د ج ق ر ك ف و ا ج م م ج م ا ن ر ب ل ا ى ل ع ن و م ئ ا ق ل ا ه ع ب ت ا ي ذ ل ا ج م م ل ا ن أ
ل م ع ل ا ت ا ش ر و و ت ا ر م ت و م ل ا N م د د ع ل ي ل و ا د ت N م م غ ر ل ا ب ا ق ب ا س N ك ت M ل ة ع د ب م
 3. د ي د ج ت ل ل ن ا ك م ل ا ر ي ي غ ت
 4. ق ص ت خ م ل ا ت ا ه ج ل ا ع م ل ص ا و ت ل ا ا ج ر ل ا
-

1. ة ه ج ا و م ل ة ي م ه أ ل ا ة ي ا غ ي ف ة ي ل م ع و ة ي م ل ع ت د ي د ج ر ا ك ف أ ى ل ع ف ر ع ت ل ا ي ف ق د ا ف ا ل ا
ت ا ي و ت س م ل ا ق ف ا ك ى ل ع ا م ل ق ب س ا ن م ل ا ل و ل ح ل ا د ا ج ي ا ي ف ق د ع ا س م ل ا و ه ا ي م ل ا ق ل ك ش م
ة ع ئ ا ر و ت د ي ر ف ق ب ر ج ت و ق د و د ح م ر ي غ و ق ر ي ب ك ت د ئ ا ف ل ا ت ن ا ك و ق د ع ص أ ل ا و
2. ت ا ر و ط ت ل ا ت د ح أ ى ل ع ز ك ر ت ن أ ب ج ي ي ل ب ق ت س م ل ا ث ح ب ل ا ة ي ج م م
و ت ا ء ا ر ج ا ل ا ت ي د ح ت ي ف ا م ن م ق د ا ف ت س ا ل ل ك ل ذ و م ل ا ع ل ا ي ف ة ي ج و ل و ن ك ت ل ا
ث و ل ت ل ا N م ة ي ف و ج ل ا ه ا ي م ل ا ر د ا ص م ى ل ع ق ظ ف ا ح م ل ا و ة ي ئ ا م ل ا ت ا ع ي ر ش ت ل ا

3. يذلة عارزلا عاطق يارب ذخال نم دب ال البقتسم رم تؤول ا اذه دق ع قلا ح يف
دعبتسا
4. قيفوتل اب و حجانل اءاقلل ا اذه ىلع نيمى اقلل ري دقتل و ركشلا لك

Annex 9

FLIP CHARTS

Welcome to “Increasing Water Efficiency by Large Consumers”

**A Future Search Conference
In cooperation with the
Ministry of Water and
Irrigation**

Role of Facilitators:

1. Set task and times
2. Manage large group discussions
3. Keep the purpose front and center

Stakeholders:

1. Technical
2. Advocacy / Education
3. Policy
4. NGOs
5. Supplier
6. Funder
7. Hospital
8. Universities
9. Hotels

Role of Participants:

- 1- Participate, provide information, ideas
- 2- Full time attendance “both days”
- 3- Honor the time frames
- 4- Task Roles:
 - Discussion leader
 - Recorder – flip charts
 - Reporter
 - Time keeper

Water Efficiency = Water Saving

1. Behavioral changes
2. Systemic changes
3. Mechanical changes

WSD’s: water reuse and water harvesting

1. Educational / advocacy
2. Marketing “efficiency”

Savings / Pay back for WSD’s – all types

1. Gov. 2.4 years
2. Schools 1.4 years
3. Universities 2.5 years
4. Hospitals 3.5 years

Brainstorming Rules:

1. All ideas are respected
2. No evaluation or debate of ideas
3. Opposing trends / ideas are okay
4. The person who names the trend says where it goes

WEPIA Goals and Indicators by 2003, WSDs in:

85% of large public consumers
85% of hotels
85% of private hospitals
85% of private schools

Water Saving Devices – WSD:

1. Aerators
2. Low flush toilets
3. Waterless Urinals
4. Low flow shower needs
 - i. Grey water reuse
 - ii. Water harvesting
 - iii. Xeroscaping

Roller Coaster of Emotions

Satisfaction, Energy and Joy
Uncertainty, Confusion, and Frustration